AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for controlling the operation of an air conditioning system, comprising[[:]]the steps of:

~~a starting operation step for~~ operating the air conditioning system until a frequency of a compressor reaches to a preset target frequency;

~~a system stabilizing step for~~ stabilizing the operation of the system after the frequency of the compressor reaches ~~to~~ the preset target frequency; and

~~a regular operation step for~~ operating the system at a fixed level[[.]], wherein the stabilizing step is performed on the basis of data including a temperature change rate of the condenser and the degree of superheat of the refrigerant at an outlet of the compressor in order to regulate the opening of an expansion valve

2. (Currently Amended) The method as claimed in claim 1, wherein the ~~system~~ stabilizing step includes;

a first step for regulating the opening of the expansion device, to increase the degree of superheat of refrigerant at an outlet of the compressor, and comparing a temperature change rate of the condenser with respect to time to a preset temperature change rate, and

a second step for, if the temperature change rate of the condenser with respect to time is lower than the preset temperature changer rate, comparing the degree of superheat of refrigerant at an outlet of the compressor to a preset degree of superheat of refrigerant at an outlet of the compressor, and opening the opening of the expansion device to a preset state, if the degree of superheat of refrigerant at an outlet of the compressor is higher than the preset degree of

superheat of refrigerant at an outlet of the compressor.

3. (Original) The method as claimed in claim 2, wherein the second step further includes the steps of;

measuring the temperature change rate with respect to time at the outlet of the compressor, if the degree of superheat of refrigerant at an outlet of the compressor is lower than the preset degree of superheat of refrigerant at an outlet of the compressor, upon comparison of the degree of superheat of refrigerant at an outlet of the compressor to the preset degree of superheat, and

opening the opening of the expansion device to a preset state, determining that an adequate time period required for stabilizing the system is passed, if the temperature change rate with respect to time at the outlet of the compressor is lower than the preset temperature change rate.

4. (Original) The method as claimed in claim 2, wherein the temperature of the condenser is measured at a part of a pipeline passed through the condenser, temperatures before and after which part are constant.

5. (Original) The method as claimed in claim 2, wherein the temperature of the condenser is measured at a part of a pipeline on an inlet side of the condenser.

6. (Original) The method as claimed in claim 2, wherein the temperature of the

condenser is measured at a part of a pipeline on an outlet side of the condenser.

7. (Original) The method as claimed in claim 3, wherein the temperature of the compressor is measured at a part of a pipeline refrigerant discharged from the compressor flows therethrough.

8. (Original) The method as claimed in claim 1, wherein the system stabilizing step includes;

a first step for regulating the opening of the expansion device to increase the degree of superheat of refrigerant at an outlet of the compressor, and comparing the temperature change rate of the condenser with respect of time to a preset temperature change rate, and opening the opening of the expansion device to a first state, if the temperature change rate of the condenser with respect to time is lower than the preset temperature changer rate, and

a second step for, after the first step, opening the opening of the expansion device to a second state if the degree of superheat of refrigerant at an outlet of the compressor is higher than the preset degree of superheat of refrigerant at an outlet of the compressor upon comparison of the degree of superheat of refrigerant at an outlet of the compressor to the preset degree of superheat of refrigerant at an outlet of the compressor.

9. (Original) The method as claimed in claim 8, wherein the second step further includes the steps of;

measuring the temperature change rate with respect to time at the outlet of the compressor, if the degree of superheat of refrigerant at an outlet of the compressor is lower than the preset degree of superheat of refrigerant at an outlet of the compressor, upon comparison of the degree of superheat of refrigerant at an outlet of the compressor to the preset degree of superheat, and

opening the opening of the expansion device to a preset state, determining that an adequate time period required for stabilizing the system is passed, if the temperature change rate with respect to time at the outlet of the compressor is lower than the preset temperature change rate.

10. (Original) The method as claimed in claim 8, wherein the temperature of the condenser is measured at a part of a pipeline passed through the condenser, temperatures before and after which part are constant.

11. (Original) The method as claimed in claim 8, wherein the temperature of the condenser is measured at a part of a pipeline on an inlet side of the condenser.

12. (Original) The method as claimed in claim 8, wherein the temperature of the condenser is measured at a part of a pipeline on an outlet side of the condenser.

13. (Currently Amended) ~~The method as claimed in claim 1~~A method for controlling the operation of an air conditioning system, comprising the steps of:

operating the air conditioning system until a frequency of a compressor reaches to a present target frequency;

stabilizing the operation of the system after the frequency of the compressor reaches to the preset target frequency; and

operating the system at a fixed level, wherein the ~~system~~ stabilizing step includes;

a first step for regulating the opening of the expansion device, to increase the degree of superheat of refrigerant at an outlet of the compressor, and comparing a temperature of the condenser to a preset temperature, and

a second step for, if the temperature of the condenser is higher than the preset temperature changer rate, comparing the degree of superheat of refrigerant at an outlet of the compressor to a preset degree of superheat of refrigerant at an outlet of the compressor, and opening the opening of the expansion device to a preset state, if the degree of superheat of refrigerant at an outlet of the compressor is higher than the preset degree of superheat of refrigerant at an outlet of the compressor.

14. (Original) The method as claimed in claim 13, wherein the second step further includes the steps of;

measuring the temperature change rate with respect to time at the outlet of the compressor, if the degree of superheat of refrigerant at an outlet of the compressor is lower than the preset degree of superheat of refrigerant at an outlet of the compressor, upon comparison of the degree of superheat of refrigerant at an outlet of the compressor to the preset degree of superheat, and

opening the opening of the expansion device to a preset state, determining that an adequate time period required for stabilizing the system is passed, if the temperature change rate with respect to time at the outlet of the compressor is lower than the preset temperature change rate.

15. (Original) The method as claimed in claim 13, wherein the temperature of the condenser is measured at a part of a pipeline passed through the condenser, temperatures before and after which part are constant.

16. (Original) The method as claimed in claim 13, wherein the temperature of the condenser is measured at a part of a pipeline on an inlet side of the condenser.

17. (Original) The method as claimed in claim 13, wherein the temperature of the condenser is measured at a part of a pipeline on an outlet side of the condenser.

18. (Original) The method as claimed in claim 1, wherein the regular operation step includes the step of maintaining the opening of the expansion device to a preset state for operating the system as the fixed level.

19. (Original) The method as claimed in claim 2, wherein the regulation of opening of the expansion device is made by regulating opening of an electronic linear expansion valve.